E/ECE/324
E/ECE/TRANS/505 } Rev.1/Add.43/Amend.5
17 April 1991

AGREEMENT

CONCERNING THE ADOPTION OF UNIFORM CONDITIONS OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL FOR MOTOR VEHICLE EQUIPMENT AND PARTS

done at Geneva on 20 March 1958

Addendum 43: Regulation No. 44

Date of entry into force as an annex to the Agreement:
1 February 1981

Amendment 5

Supplement 3 to the 02 series of amendments — Date of entry into force:
29 November 1990

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF RESTRAINING DEVICES FOR CHILD OCCUPANTS OF POWER-DRIVEN VEHICLES ("CHILD RESTRAINT SYSTEM")

UNITED NATIONS

Paragraph 2.8.3 amend to read:

"'crotch strap' means a strap (or divided straps, where two or more pieces of webbing make it) attached to the child restraint and the lap strap and is so positioned as to pass between the child's thighs; it is designed to prevent the child sliding under the lap belt in normal use and prevent the lap belt moving up off the pelvis in an impact."

Paragraph 2.8.6 amend to read:

"'harness belt' means a belt assembly comprising a lap belt, shoulder restraints and, where fitted, a crotch strap."

Add a new paragraph 2.8.7 to read:

"'Y-shaped belt' means a belt where the combination of straps is formed by a strap to be guided between the child's legs and a strap for each shoulder."

Add a new paragraph 2.26 to read:

"'lock-off device' is a device which locks and prevents movement of one section of the webbing of an adult safety belt relative to another section of the webbing of the same belt. When supplied with Group 1 restraints the device allows compliance with paragraph 6.2.9."

Paragraph 3.2.3 amend to read:

"a 10-metre length of each category of strap used in the child restraint, and"

Add a new paragraph 3.4 to read:

"The competent authority shall verify the existence of satisfactory arrangements for ensuring effective control of conformity of production before type-approval is granted."

Paragraph 5.3, amend to read:

"5.3. Notice of approval or of extension or refusal of approval of a child restraint pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1 to this Regulation."

Add a new paragraph 5.4.2.3 to read:

"The symbol 'Y', in the case of a device containing a crotch strap, in conformity with the requirements of supplement 3 to the 02 series of amendments to the Regulation."

Paragraph 6.2.1.2 amend to read:

"the child is easily and quickly installed and removed; in the case of a child restraint system in which the child is restrained by means of a harness belt or a Y-shaped belt without a retractor each shoulder restraint and lap strap shall be capable of movement relative to each other during the procedure prescribed in paragraph 7.2.1.4.

In these cases the belt assembly of the child restraint system may be designed with two or more connecting parts."

Add a new paragraph 6.2.4.1 to read:

"Y-shaped belts may only be used in rearward facing child restraint systems."

Paragraph 6.2.6 amend to read:

"Any part made separable to enable components to be fixed and detached shall be so designed as to avoid any risk of incorrect assembly and use so far as possible. Devices which lock the adult seat belts, if any, must be permanently attached to the restraint system for which they are intended to be used."

Paragraph 6.2.9 amend to read:

"For devices intended for use in Group 1 it must not be possible for the child to easily slacken that part of the system that restrains the pelvis after the child has been installed; any device that is designed to obtain this must be permanently attached to the child restraint system."

Paragraph 7.2.1.1 amend to read:

"The buckle shall be so designed as to preclude any possibility of incorrect manipulation. This means, inter alia, that it must not be possible for the buckle to be left in a partially closed position; it must not be possible to exchange the buckle parts inadvertently when the buckle is being locked; the buckle must only lock when all parts are engaged. Wherever the buckle is in contact with the child, it shall not be narrower than the minimum width of strap as specified in paragraph 7.2.4.1.1 below. This paragraph is not applicable to belt assemblies already approved according to ECE Regulation No. 16 or any equivalent standard in force."

Delete paragraphs 7.2.4.4, 7.2.4.5 and 7.2.4.6

Add a new paragraph 7.2.5 to read:

"7.2.5. Lock-off device

7.2.5.1. The lock-off device must be permanently attached to the child restraint.

7.2.5.2. The lock-off device must not impair the durability of the adult belt.

7.2.5.3. The lock-off device must not prevent the rapid release of the child."

Paragraph 8.1.3.4

Only the table in this paragraph should be corrected as follows, the rest of the paragraph remains unchanged.

		FRONTAL IMPACT			REAR IMPACT		
Test	Restraint	Speed (km/h)	Test pulse	Stopping distance during test (mm)	Speed (km/h)	Test pulse	Stopping distance during test (mm)
Trolley with test seat	Forward facing rear seat semi-universal */	50+0 -2	1	650±50	-	-	-
	Rearward facing front seat semi-universal **/	50+0 -2	1	650±50	30+2 -0	2	275±25
Trolley with test seat	Forward facing front and rear seats universal */	50+0 -2	1	650±50	-	-	-
	Rearward facing front and rear seats universal **/	50+0 -2	1	650±50	30+2 -0	2	275±25
Vehicle body on trolley	Forward facing front and rear seats */	50+0 -2	1	650±50	-	-	-
	Rearward facing front and rear seats */	50+0 -2	1	650±50	30+2	2	275±25
Whole vehicle barrier test	Forward facing front and rear seats	50+0 -2	3	not specified	-	-	-
	Rearward facing front and rear seats	50+0 -2	3	not specified	30+2 -0	4	not specified

Paragraph 8.1.3.6.3.4. Add the following sentence at the end:

"... taken of paragraph 8.1.3.2.1.3. In case of booster cushions to be tested with the manikin representing a 10-year-old child, the longitudinal plane passing through the centre line of the manikin shall be positioned 75 ± 5 mm to the left or right with regard to the point midway between the two lower belt anchorages."

Paragraph 8.1.3.6.3.5. Add the following sentence at the end:

"... width and length. In case of rearward facing devices the head may be held against the backrest of the restraint system using a light-weight masking tape of sufficient length and width."

Paragraph 10, title amend to read:

"10. MODIFICATIONS AND EXTENSION OF APPROVAL OF A TYPE OF CHILD RESTRAINT SYSTEM"

Add the following new paragraph 10.3:

"10.3. The competent authority issuing the extension of approval shall assign a series number for such an extension and inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in annex 1 to this Regulation."

Paragraph 11 amend to read:

"11. CONFORMITY OF PRODUCTION

11.1. Any child restraint system approved to this Regulation shall be so manufactured as to conform to the type approved by meeting the requirements set forth in paragraphs 6 to 8 above.

11.2. In order to verify that the requirements of paragraph 11.1 are met, suitable controls of the production shall be carried out.

11.3. The holder of the approval shall in particular:

11.3.1. Ensure existence of procedures for the effective control of the quality of the child restraint systems;

11.3.2. Have access to the control equipment necessary for checking the conformity of each approved type;

11.3.3. Ensure that data of test results are recorded and that annexed documents remain available for a period to be determined in accordance with the administrative service;

11.3.4. Analyse the results of each type of test, in order to verify and ensure the stability of the child restraint system characteristics, making allowance for variation of an industrial production;

11.3.5. Ensure that, for each type of child restraint system, at least the tests prescribed in annex 16 to this Regulation are carried out;

11.3.6. Ensure that any samples or test pieces giving evidence of non-conformity with the type of test considered shall give rise to another sampling and another test. All the necessary steps shall be taken to re-establish the conformity of the corresponding production.

11.4. The competent authority which has granted type-approval may at any time verify the conformity control methods applicable to each production unit.

11.4.1. In every inspection, the test books and production survey records shall be presented to the visiting inspector.

11.4.2. The inspector may take samples at random which will be tested in the manufacturer's laboratory. The minimum number of samples may be determined according to the results of the manufacturer's own verification.

11.4.3. When the quality level appears unsatisfactory, or when it seems necessary to verify the validity of the tests carried out in application of paragraph 11.4.2 the inspector shall select samples to be sent to the technical service which has conducted the type-approval tests.

11.4.4. The competent authority may carry out any test prescribed in this Regulation.

11.4.5. The normal frequency of inspections authorized by the competent authority shall be two per year. In the case where negative results are recorded during one of these inspections, the competent authority shall ensure that all necessary steps are taken to re-establish the conformity of production as rapidly as possible."

Paragraphs 12.2 and 13.1, at the end amend to read:

"... by means of a communication form conforming to the model in annex 1 to this Regulation."

Paragraph 14.2.1. Insert after the first sentence the following phrase:

"... removing the packing. (This list is not required in the case of systems of the 'universal' category.) If the device ..."

Paragraph 14.3.10, for "... skin;" read "... skin."

Add a new paragraph 14.3.11 to read:

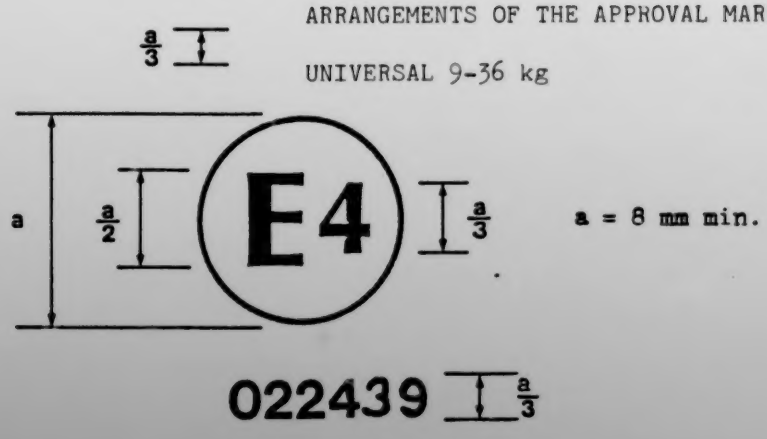
"it shall be recommended that children are not left in their child restraint system unattended."

Annex 2: Amend to read:

"Annex 2

ARRANGEMENTS OF THE APPROVAL MARK

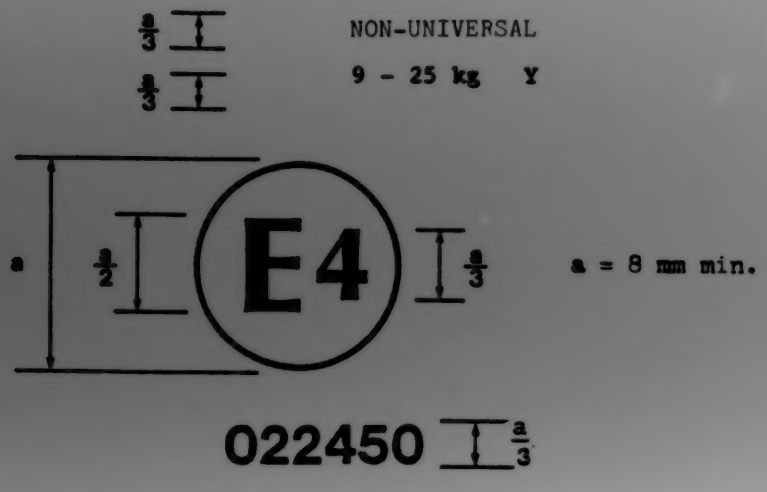
UNIVERSAL 9-36 kg



The child restraint system bearing the above approval mark is a device capable of being fitted in any vehicle and of being used for the 9 kg-36 kg mass range (Groups 1-3); it is approved in the Netherlands (E4) under the number 022439. The approval number indicates that the approval was granted in accordance with the requirements of the Regulation concerning the approval of restraining devices for child occupants of power-driven vehicles ('child restraint system') as amended by the 02 series of amendments.

NON-UNIVERSAL

9 - 25 kg Y



The child restraint system bearing the above approval mark is a device not capable of being fitted in every vehicle and of being used for the 9 kg-25 kg mass range (Groups 1 and 2); it is approved in the Netherlands (E4) under the number 022450. The approval number indicates that the approval was granted in accordance with the requirements of the Regulation concerning the approval of restraining devices for child occupants of power-driven vehicles ('child restraint system') as amended by the 02 series of amendments. The symbol 'Y' indicates that the system contains a crotch strap.

Note: The approval number and additional symbol(s) must be placed close to the circle and either above or below the 'E' or to left or right of it. The digits of the approval number must be on the same side of the 'E' and orientated in the same direction. The additional symbol(s) must be diametrically opposite the approval number. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols."

Add the following new annex 16:

"Annex 16

CONTROL OF CONFORMITY OF PRODUCTION

1. Tests

Child restraint systems shall be required to demonstrate compliance with the requirements on which the following tests are based:

1.1. Verification of the locking threshold and durability of emergency locking retractors

According to the provisions of paragraph 8.2.4.3 in the most unfavourable direction as appropriate after having undergone the durability testing detailed in paragraphs 8.2.4.2, 8.2.4.4 and 8.2.4.5 as a requirement of paragraph 7.2.3.2.6.

1.2. Verficiation of the durability of automatically locking retractors

According to the provisions of paragraph 8.2.4.2 supplemented by the tests in paragraphs 8.2.4.4 and 8.2.4.5 as a requirement of paragraph 7.2.3.1.3.

1.3. Test for strength of straps after conditioning

According to the procedure described in paragraph 7.2.4.2 after conditioning according to the requirements of paragraphs 8.2.5.2.1 to 8.2.5.2.5.

1.3.1. Test for strength of straps after abraison

According to the procedure described in paragraph 7.2.4.2 after conditioning according to the requirements described in paragraph 8.2.5.2.6.

1.4. Microslip test

According to the procedure described in paragraph 8.2.3 of this Regulation.

1.5. Energy absorption

According to the provisions of paragraph 7.1.2 of this Regulation.

1.6. Verification of the performance requirements of the child restraint system when subjected to the appropriate dynamic test

According to the provisions set out in paragraph 8.1.3 with any buckle having been pre-conditioned according to the requirements of paragraph 7.2.1.7 such that the appropriate requirements of paragraph 7.1.4 (for the overall performance of the child restraint) and paragraph 7.2.1.8.1 (for the performance of any buckle under load) are complied with.

2. Test frequency and results

2.1. The frequency of testing to the requirements of paragraphs 1.1 to 1.5 shall be on a statistically controlled and random basis in accordance with one of the regular quality assurance procedure.

2.1.1. Furthermore, in the case where emergency locking retractors are incorporated in the child restraint system, all such assemblies shall be checked:

2.1.1.1. either according to the provisions set out in paragraphs 8.2.4.3.1, 8.2.4.3.2, 8.2.4.3.3 and 8.2.4.3.4 of this Regulation, in the most unfavourable direction as specified in paragraph 8.2.4.3.3. Test results shall meet the requirements of paragraphs 7.2.3.2.1.1 and 7.2.3.2.4 of this Regulation,

2.1.1.2. or according to the provisions set out in paragraph 8.2.4.3.5 of this Regulation, in the most unfavourable direction. Nevertheless, the speed of inclination can be more than the prescribed speed in so far as it does not affect the test results. Test results shall meet the requirements of paragraph 7.2.3.2.1.4 of this Regulation.

2.2. The minimum frequency in order to verify compliance with the dynamic test according to paragraph 1.6 shall be 1 in 5,000 child restraint systems produced with a minimum frequency of one per two weeks of production.

The requirements set out in paragraphs 7.1.4.1.4 and 7.2.1.8.1.2 of this Regulation shall be met for each test. Furthermore for one test out of two, the other requirements set out in paragraphs 7.1.4 and 7.2.1.8.1 shall be met also.

However, a minimum frequency of 1 per year shall be permitted where annual production is 1,000 child restraint systems or less.

In this case the requirements set out in paragraphs 7.1.4 and 7.2.1.8.1 shall be met.

2.3. Where a test sample fails a particular test to which it has been subjected, a further test to the same requirements shall be carried out on at least three other samples. In the case of dynamic tests if one of the latter fails the test, the holder of the approval or his duly accredited representative shall notify the competent authority which has granted type approval indicating what steps have been taken to re-establish the conformity of production."